

ability to show differences between interventions. The project investigated the feasibility of deriving relative and absolute utility values from the RGHQoL. **METHODS:** A discrete choice conjoint analysis (CA) task (for eliciting relative utility) and time trade off (TTO) exercise (absolute utility) were designed using QoL states generated from a subset of six RGHQoL items. RGH patients completed tasks via interview. CA data were analysed using the random effects probit model. For TTO, a random effects tobit regression was employed to estimate absolute utility values for combinations of attribute levels not presented in the valuation exercise. **RESULTS:** One hundred and ninety-two interviews were conducted (79 male; 113 female). For CA, all attributes were statistically significantly influential in determining preferences. An equation containing preference weights to be applied to the six RGHQoL items was derived. Inserting values for relevant levels of each attribute yields an index of relative utility based on QoL outcomes. Scores generated are ordinal. A second equation was derived for calculating absolute utilities using TTO, allowing absolute utility values to be calculated for each individual. As the TTO technique possesses cardinal properties, it is possible to derive QALY scores. **CONCLUSIONS:** It is feasible to generate both relative and absolute utility values for responses to the RGHQoL questionnaire, allowing utility to be based on true QoL. The formulae derived can be applied to both existing RGHQoL data and those derived from future studies.

PIN32

A COMPARISON OF CONJOINT ANALYSIS AND TIME TRADE OFF ELICITED UTILITIES FOR QUALITY OF LIFE STATES ASSOCIATED WITH THE TREATMENT OF GENITAL HERPES

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OBJECTIVES: To compare and contrast the utilities generated for quality of life (QoL) states from the recurrent genital herpes quality of life questionnaire (RGHQoL) using two main elicitation techniques: conjoint analysis (CA) and time trade off (TTO). **METHODS:** A questionnaire was designed for face-to-face interview including QoL states defined by six RGHQoL attributes representing aspects of QoL. A sample of patients (n = 207) diagnosed with recurrent genital herpes consented to participate in the study. Interviews were conducted with 192 (92.8%) of these. Respondents were asked to compare QoL states using a discrete choice CA framework and to complete a TTO exercise in which they were asked to indicate how many years spent in specific QoL states would be equivalent to 10 years with perfect QoL. **RESULTS:** Some degree of concordance was observed between the CA and TTO elicited utilities. The same

health state achieved the highest utility value regardless of the elicitation technique used. However, statistical comparison of CA and TTO elicited values for health states indicated statistically significant differences overall (Wilcoxon test, $p = 0.037$). **CONCLUSIONS:** Unlike CA elicited utilities, the utilities generated using the TTO technique are considered to have cardinal properties and hence have the advantage that they can be used within a quality adjusted life year (QALY) framework for economic evaluation. However, our results suggest that there was a much greater degree of intra-respondent variation in TTO elicited values than CA elicited values. Many respondents struggled to grasp the concept of TTO and provided inconsistent responses as a consequence. In contrast, the degree of completeness and consistency with the discrete choice CA exercise was high. Further research should explore the potential use of CA in developing utilities that possess qualities such that these can be used directly within a QALY framework.

INFECTION—Healthcare Policy

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FACTORS INFLUENCING INAPPROPRIATE ANTIBIOTIC PRESCRIBING FOR CHILDREN WITH ACUTE BRONCHITIS IN AMBULATORY CARE SETTING

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OBJECTIVES: Although the antibiotic prescribing rate for pediatric respiratory tract infections in the ambulatory care setting decreased significantly from 1989 to 2000, the rate for acute bronchitis remains high. This study sought to identify factors associated with antibiotic prescribing for acute bronchitis and to confirm changes in antibiotic prescribing rates from 1996 to 1999 for URIs, colds, and bronchitis. **METHODS:** A retrospective analysis of antibiotic use in U.S. office-based settings was conducted using the 1996 and 1999 National Ambulatory Medical Care Survey (NAMCS). Children <18 years diagnosed with acute bronchitis (bronchitis, ICD-9-CM;466**,490**), nasopharyngitis (common colds, ICD-9-CM;460**), acute upper respiratory tract infections (URIs, ICD-9-CM;465**) were selected. We excluded persons that were diagnosed with any condition for which an antibiotic may be appropriate. Antibiotic use was determined by searching all prescription codes for antimicrobial agents (NDC;0346–0358). Logistic regression was used to identify significant patient, health system, and physician characteristics associated with antibiotic prescribing. **RESULTS:** Over the 1996 to 1999 period, antibiotic prescribing decreased from 73% to 17% and 37% to 20% for colds and URI visits. In 1999, there were 2.2 million pediatric visits for acute bronchitis and 79.1% received an antibiotic which was relatively unchanged from the rate of 86% observed in 1996. Antibiotic classes prescribed for bronchitis included

Erythromycins/lincosamind/macrolides (49%), Penicillins (39%), Cephalosporin (9%) and Sulfonamides/Trimethoprim (3%). Out of 6 factors explored, only pediatricians were more likely to prescribe antibiotics for acute bronchitis than non-pediatricians (OR = 12.78; 95% CI, 1.42–115.19). **CONCLUSIONS:** Our study confirms the dramatic decrease in potentially inappropriate antibiotic prescribing for children diagnosed with common colds and URIs. The rate of potentially inappropriate antibiotic prescribing remained high (79%) for children diagnosed with bronchitis with the highest rates observed for children seeking care from a pediatrician. More than half of antibiotic classes prescribed for bronchitis were considered to be ineffective for underlining pathogens in cases of bacterial bronchitis complications.

PIN34

INITIAL ANTIVIRAL TREATMENT OF CHRONIC HEPATITIS C: A GERMAN HEALTH TECHNOLOGY ASSESSMENT AND DECISION ANALYSIS

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OBJECTIVES: The objective of this health technology assessment (HTA) commissioned by the German Agency for HTA/ German Federal Ministry of Health was to establish an interdisciplinary expert network, to systematically review the evidence on effectiveness and cost-effectiveness of initial antiviral combination therapy for chronic hepatitis C (CHC) and to apply these data in the context of the German health care system. **METHODS:** A systematic literature review was conducted and study quality/transferability to the German context were assessed using standard instruments of the German Agency for HTA. A decision-analytic Markov model was developed including pooled short-term outcomes (sustained virological response [SVR] and respective pooled relative risks) from a recently published Cochrane Review, single RCTs, utilities from a large German quality-of-life survey in CHC patients (n = 428), and German cost data. The model was used to determine long-term morbidity, life expectancy, and lifetime costs of different treatment strategies using the societal perspective. One- and multi-way sensitivity analyses were performed. **RESULTS:** International clinical studies indicate that combination therapy with pegylated interferon and ribavirin (PCOM) achieves highest SVR (54–61%), followed by standard combination therapy with interferon and ribavirin (SCOM) with 37–54%, and interferon monotherapy (MONO) with 11–21%. Based on international cost-effectiveness studies, SCOM is “cost-effective” compared to MONO. Our decision analysis confirmed these findings for the German health care context. No published articles were available for assessing the cost-effectiveness of PCOM. Based on our decision analysis,

PCOM dominated SCOM, and its discounted incremental cost-effectiveness ratio compared to MONO was €8,200 per quality-adjusted life year. These results were robust in sensitivity analyses. **CONCLUSIONS:** This HTA suggests that initial combination therapy should prolong life, improve quality-adjusted life expectancy, and be cost-effective in patients with chronic hepatitis C. The combination of pegylated interferon and ribavirin is currently the most effective and efficient antiviral treatment for CHC.

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VARICELLA VACCINATION OF PRE-SCHOOL CHILDREN: DETERMINING OPTIMAL COVERAGE LEVELS

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OBJECTIVES: High coverage is crucial for the success of vaccination strategies. We investigate the effect of different coverage levels of varicella vaccination in Germany on the possible elimination of varicella, clinical effectiveness (measured as percentage of preventable varicella cases prevented), possibility of age-shifts, and economic outcomes. **METHODS:** Using an established, age-structured, decision-analytic model named EVITA (Economic Varicella Vaccination Tool for Analysis), we analyze the impact of vaccinating children aged 15 months against varicella-zoster-virus. Main assumptions are: efficacy 86%, costs discounted by 5%, analytic time horizon 30 yrs. Coverage levels are varied from 0% to 100%. **RESULTS:** For coverage levels above 75%, varicella can be eliminated within 26.5 years (at 75%), 18 years (at 85%) and 14.5 years (at 100%). At coverage levels below 30% clinical effectiveness is smaller than the respective coverage levels, from 40% to 70% clinical effectiveness is higher than coverage showing the strong effect of herd immunity. Above 70% clinical effectiveness remains nearly constant due to the elimination. Because vaccination is very effective in reducing the number of cases in young children, the relative proportion of varicella cases of adolescents and adults increases. However, the total number of cases declines in all age groups for coverage levels above 50%, i.e. no age-shift occurs. Costs rise linear with coverage, savings rise even steeper until 70% coverage and remain constant for higher coverage levels. Therefore, net savings are greatest at coverage levels of about 70%. Benefit-cost-ratios rise up to coverage levels of 70% and fall for coverage higher than 80%. All benefit-cost-ratios are above 1 showing that net savings occur from both perspectives the payers' and the societal. **CONCLUSIONS:** Epidemiological considerations favor coverage levels of more than 75% to eliminate varicella and to ensure that no age-shift occurs. From